

**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS
WICHITA FALLS DIVISION**

**LIGHTING BALLAST CONTROL,
LLC,**

Plaintiff,

v.

**PHILIPS ELECTRONICS NORTH
AMERICA CORP., et al.,**

Defendants.

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CIVIL ACTION NO. 7:09-CV-29-O

MEMORANDUM OPINION & ORDER

Before the Court are Plaintiff Lighting Ballast Control, LLC's ("LBC") Motion for Judgment (ECF No. 244) filed on July 27, 2011, Defendant Universal Lighting Technologies, Inc.'s ("ULT") Response (ECF No. 249), LBC's Reply (ECF No. 250), ULT's Response and Objection to LBC's Reply (ECF No. 253), and LBC's Response to ULT's Objection (ECF No. 254). Also before the Court are Defendant ULT's Motion for Judgment as a Matter of Law (ECF No. 246), filed on June 27, 2011, Plaintiff LBC's Response (ECF No. 247), and ULT's Reply (ECF No. 252).

Having reviewed the motions and the applicable law, the Court finds that Defendant ULT's Motion should be and is hereby **GRANTED** in part and **DENIED** in part, and Plaintiff LBC's Motion should be and is hereby **GRANTED** in part and **DENIED** in part.

I. FACTUAL & PROCEDURAL BACKGROUND¹

¹ In considering a motion for judgment as a matter of law "the court must draw all reasonable inferences in favor of the non-moving party, and it may not make credibility determinations or weigh the evidence." *Reeves v. Sanderson Plumbing Prods., Inc.*, 530 U.S. 133, 150 (2000). "[T]he court should give credence to the evidence favoring the nonmovant as well as that 'evidence supporting the moving party that is uncontradicted and unimpeached, at least to the extent that evidence comes from disinterested witnesses.'" *Id.* (quoting 9 CHARLES ALAN WRIGHT & ARTHUR R. MILLER, *FEDERAL PRACTICE AND PROCEDURE* § 2529 (2d ed. 1995)).

At issue in this case is United States Patent 5,436,529 (“‘529 Patent”) issued on July 25, 1995, and entitled “CONTROL AND PROTECTION CIRCUIT FOR ELECTRONIC BALLAST.” *See* Summ. J. Order 1, May 4, 2011, ECF No. 172. Plaintiff LBC holds the exclusive right to enforce the ‘529 Patent. *Id.* The ‘529 Patent covers a lighting ballast that powers fluorescent lamps with heatable filaments. *Id.* at 2. An electronic ballast practicing the ‘529 Patent operates in three different stages: (1) the initial start-up of the ballast, (2) the shut-down or sleep-mode of the ballast, and (3) the re-starting of the ballast after an inoperable lamp has been replaced. *Id.*

LBC instituted this action against ULT for infringement of the ‘529 Patent on February 24, 2009. *Id.* This case was tried to a jury on LBC’s contention that 46 of ULT’s lighting ballast products literally infringe claims 1, 2 and 5 of the ‘529 patent during the week of June 13, 2011. *See* ECF No. 226. After the close of LBC’s case, and again at the close of the evidence, ULT moved from entry of Judgment as a Matter of Law on the basis of non-infringement and invalidity pursuant to Rule 50(a) of the Federal Rules of Civil Procedure. The Court denied these motions.

On June 17, 2011, the jury returned a verdict finding: 1) all seven ULT product groups infringed claims 1, 2 and 5 of the ‘529 patent; 2) the asserted claims were not invalid as anticipated; 3) that there was no willful infringement; and 4) awarding “3,000,000.00” in damages to LBC. *See* Jury Charge 24-27, ECF No. 241. On June 27, 2011, in accord with the Court’s June 18, 2011 Order, LBC filed a motion for entry of judgment seeking: 1) an award of prejudgment and post-judgment interest and entry of the \$3,000,000.00 damages award; 2) a finding that this is an exceptional case under 35 U.S.C. § 285 on the basis of ULT’s litigation misconduct, justifying an award of attorney’s fees; 3) a permanent injunction barring ULT from continuing to infringe claims 1, 2 and 5 of the ‘529 patent; and 4) a declaration stating that the ‘529 patent is infringed and valid.

See LBC's Mot. Entry J.1, ECF No. 244.

On the same day, pursuant to the Court's June 18, 2011 Order and Rule 50 of the Federal Rules of Civil Procedure, ULT moved for Judgment as a Matter of Law on seven grounds: 1) the record does not contain legally sufficient evidence that the accused ULT products met the "output terminals connected to" limitation of claim 1 of the '529 patent; 2) the record does not contain legally sufficient evidence that the accused ULT products met the "control means" limitation of the '529 patent; 3) the record does not contain legally sufficient evidence that the accused products met the "direct current block means" limitation of the '529 patent; 4) the record does not contain legally sufficient evidence that the Linear Group 3 products infringe the '529 patent; 5) LBC failed to rebut the uncontested evidence that the '529 patent is invalid as anticipated by Japanese patent applications '799 and '997; 6) the record does not contain sufficient evidence to show compliance with the marking requirements of 35 U.S.C. § 284; and 7) based on the record evidence, the Court should clarify that the damages award represents a lump sum reasonable royalty award. *See* ULT's Mot. J. as a Matter of Law ("JMOL") 1-2, ECF No. 246.

II. LEGAL STANDARD

Rule 50 of the Federal Rules of Civil Procedure governs motions for judgment as a matter of law in jury trials. *See* Fed. R. Civ. P. 50; *see also Weisgram v. Marley Co.*, 528 U.S. 440, 448-49 (2000). A motion for judgment as a matter of law "is not a patent-law-specific issue, so regional circuit law applies." *Harris Corp. v. Ericsson Inc.*, 417 F.3d 1241, 1248 (Fed. Cir. 2005). Rule 50(a) "authorizes the entry of judgment as a matter of law '[i]f a party has been fully heard on an issue during a jury trial and the court finds that a reasonable jury would not have a legally sufficient evidentiary basis to find for the party on that issue.'" *See James v. Harris Cnty.*, 577 F.3d 612, 617

(5th Cir. 2009) (quoting Fed. R. Civ. P. 50(a)). “It allows the trial court to remove cases or issues from the jury’s consideration ‘when the facts are sufficiently clear that the law requires a particular result.’” *Weisgram*, 528 U.S. at 448 (quoting 9 Wright & Miller § 2521). “If the court does not grant a motion for judgment as a matter of law made under Rule 50(a), the court is considered to have submitted the action to the jury subject to the court’s later deciding the legal questions raised by the motion.” Fed. R. Civ. P. 50(b).

“[I]n entertaining a motion for judgment as a matter of law, the court should review all of the evidence in the record.” *Reeves*, 530 U.S. at 150. “In doing so, however, the court must draw all reasonable inferences in favor of the nonmoving party, and it may not make credibility determinations or weigh the evidence.” *Id.* (citing *Lytle v. Household Mfg., Inc.*, 494 U.S. 545, 554-55 (1990)). “‘Credibility determinations, the weighing of the evidence, and the drawing of legitimate inferences from the facts are jury functions, not those of a judge.’” *Id.* at 150-51 (quoting *Anderson v. Liberty Lobby*, 477 U.S. 242, 255 (1986)). “Thus, although the court should review the record as a whole, it must disregard all evidence favorable to the moving party that the jury is not required to believe.” *Id.* at 151.

“A motion for judgment as a matter of law is appropriate if, after considering the evidence presented and viewing all reasonable inferences in the light most favorable to the nomovant, the facts and inferences point so strongly in favor of the movant that a rational jury could not arrive at a contrary verdict.” *Murray v. Red Kap Indus., Inc.*, 124 F.3d 695, 697 (5th Cir. 1997). The Court must determine “whether ‘the facts and inferences point so strongly and overwhelmingly in favor of one party that the court concludes that reasonable jurors could not arrive at a contrary verdict.’” *Harris Corp.*, 417 F.3d at 1248 (quoting *Bellows v. Amoco Oil Co.*, 118 F.3d 268, 273 (5th Cir.

1997)). “If there is substantial evidence of such quality and weight that reasonable and fair-minded jurors might reach a different conclusion” then judgment as a matter of law is not appropriate. *Id.* “We must remember, however, that evidence sufficient to support a jury verdict must be *substantial* evidence.” *Guile v. United Sates*, 422 F.3d 221, 227 (5th Cir. 2005). “[T]he party opposing the motion must at least establish a conflict in substantial evidence on each essential element of their claim.” *See Anthony v. Chevron USA, Inc.*, 284 F.3d 578, 583 (5th Cir. 2002) (citing *Boeing Co. v. Shipman*, 411 F.2d 365, 374 (5th Cir. 1969) (en banc)). “The ‘standard of review with respect to a jury verdict is especially deferential.’” *Lubke v. City of Arlington*, 455 F.3d 489, 494 (5th Cir. 2006) (quoting *Brown v. Bryan Cnty.*, 219 F.3d 450, 456 (5th Cir. 2000)).

III. MOTION FOR JUDGMENT AS A MATTER OF LAW

The Court will first consider ULT’s Motion for Judgment as a Matter of Law, and then consider LBC’s Motion for Entry of Judgment.

ULT moves for judgment as a matter of law on seven grounds: 1) the record does not contain legally sufficient evidence that the accused ULT products meet the “output terminals connected to” limitation of claim 1 of the ‘529 patent; 2) the record does not contain legally sufficient evidence that the accused ULT products meet the “control means” limitation of the ‘529 patent; 3) the record does not contain legally sufficient evidence that the accused products meet the “direct current block means” limitation of the ‘529 patent; 4) the record does not contain legally sufficient evidence that the Linear Group 3 products infringe the ‘529 patent; 5) LBC failed to rebut the uncontested evidence that the ‘529 patent is invalid as anticipated by Japanese patent applications ‘799 and ‘997; 6) the record does not contain legally sufficient evidence that LBC complied with the marking requirements of 35 U.S.C. § 284; and 7) based on the record evidence, the Court should clarify that

the damages award represents a lump sum royalty payment. *See* ULT's JMOL 1-2, ECF No. 246.

A. "Connected to" Limitation

ULT contends that LBC failed to present legally sufficient evidence that the accused products meet the "output terminals connected to" limitation of claim 1 because the products are merely capable of being connected to a gas discharge lamp, but are not actually so connected. *See* Br. Supp. ULT's JMOL 1-3, ECF No. 246. ULT further contends that the verdict cannot be sustained on the basis of LBC's untimely attempt to re-construe "connected to" to mean "for connection to," because LBC waived their construction argument by failing to present it until after trial is incorrect as a matter of law. *Id.* at 3-8. LBC responds that ULT is the party proposing a new construction of the "connected to" language of claim 1, as both parties and the Court have consistently used the term "connected to" as interchangeable with the "for connection to" language of claim 18. *See* LBC's Resp. ULT's JMOL 2-11, ECF No. 247. LBC further argues that, regardless of ULT's waiver, ULT's proposed construction is incorrect as a matter of law. *Id.*

Preliminarily, both parties contend that their adversaries are proposing novel construction arguments. As such, both parties argue that their rivals have waived their proposed constructions. "Although waiver is generally a procedural issue, this court applies Federal Circuit precedent when determining whether a claim construction argument has been waived." *Lazare Kaplan Int'l, Inc. v. Photoscribe Techs. Inc.*, 628 F.3d 1359, 1376 (Fed. Cir. 2010) (citing *Harris Corp.*, 417 F.3d at 1250-51). "[L]itigants waive their right to present new claim construction disputes if they are raised for the first time after trial." *Broadcom Corp. v. Qualcomm Inc.*, 543 F.3d 683, 694 (Fed. Cir. 2008) (quoting *Conoco, Inc. v. Energy & Envtl. Int'l, L.C.*, 460 F.3d 1349, 1358-59 (Fed. Cir. 2006)).

ULT contends that at trial, and in its trial brief, LBC attempted to justify a finding of infringement by arguing for the first time that claim 1's "connected to" language should be construed to mean "for connection to," thus relieving LBC of the burden of proving that ULT actually connects its accused ballasts to lamps. *See* Br. Supp. ULT's JMOL 3, ECF No. 246. ULT contends that such a construction should have been presented to the Court rather than argued to the jury. *Id.* at 3-4. ULT further contends that LBC waived the right to proffer such a construction by not requesting a construction from the Court before the close of trial. *Id.* LBC contends that ULT's argument to the jury at trial that "connected to" and "for connection to" are not interchangeable represents a last-minute attempt to re-construe the term at odds with ULT's earlier claim construction position. LBC's Resp. ULT's JMOL 3-4, ECF No. 247. Accordingly, LBC contends that ULT waived any argument that the output terminals of the ballast must be physically connected to the lamp to meet the "connected to" language of claim 1. *Id.*

ULT's position rests on the intuitively enticing argument that because the "connected to" language of claim 1 was never "specially construed," such language retained its "plain meaning." *See* ULT's Reply 2-3, ECF No. 252. According to ULT, "arguing that words in a claim should be given a specialized or non-ordinary meaning is *proposing* a claim construction." *Id.* at 2. ULT's contention that no "specialized construction" of the term was necessary because they only sought to rely on the "plain meaning" of the language in claim 1 ignores the fact that in patent cases, "the ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc).

In fact, both parties implicitly proposed new claim construction arguments during the course

of trial. ULT argued for the first time that the accused products did not meet claim 1 of the ‘529 patent because ULT did not literally connect their ballasts to lamps. Implicit in such argument to the jury was a construction holding that “connected to” required actual physical connection, a construction at odds with most of the parties’ prior briefing on the issue. Similarly, LBC argued to the jury through their expert Dr. Roberts that the term “connected to” in the ‘529 patent should be understood to mean “for connection to.” When LBC filed its trial brief regarding construction of the “connected to” language, ULT responded by arguing that *Cross Medical Products, Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293 (Fed. Cir. 2005), controlled and required the Court to construe the term “connected to” to require actual physical connection. Despite such clearly dueling constructions, neither party requested that the Court construe the term. Rather, both parties continued to argue their respective constructions to the jury, waiving their right to request such constructions through post-judgment motions.

Problematically, given the extant evidence regarding ULT’s patents and the construction arguments counsel for both ULT and LBC made to the jury, the jury was required to construe the term “connected to” to mean “for connection to” in order to find infringement because mere capability is insufficient to support a finding of infringement. *See, e.g. Ball Aerosol & Specialty Container, Inc. v. Ltd. Brands, Inc.*, 555 F.3d 984, 994-95 (Fed. Cir. 2009). In order to directly infringe a patent “an accused infringer must either practice every element or control or direct the actions of another that practices the element in question.” *Centillion Data Sys., LLC v. Quest Commc’n Int’l, Inc.*, 631 F.3d 1279, 1282 (Fed. Cir. 2010). In *Ball Aerosol*, the “district court found infringement because the accused [device] ‘is reasonably capable of being configured in such a way that its holder [meets the relevant claim limitation].’” *Ball Aerosol*, 555 F.3d at 994. The Federal

Circuit reversed, holding that the plaintiff's "reliance on cases that found infringement by accused products that were reasonably capable of operating in an infringing manner is misplaced, since that line of cases is relevant only to claim language that specifies that the claim is drawn to capability." *Id.* (citing *Fantasy Sports Props., Inc. v. Sportsline.com, Inc.*, 287 F.3d 1108, 1117-18 (Fed. Cir. 2002)). *Ball Aerosol* teaches that unless the claim language is drawn to capability, a plaintiff must prove "specific instances of direct infringement or that the accused device necessarily infringes the patent in suit." *Id.* (quoting *ACCO Brands, Inc. v. ABA Locks Mfg. Co.*, 501 F.3d 1307, 1313 (Fed. Cir. 2007)). In the instant case, the claim language "connected to" is not drawn to capability. Accordingly, the jury verdict cannot be upheld by resort to argument that the accused products are "reasonably capable" of being connected to gas discharge lamps. *Cf. id.* For the jury's verdict to be reasonable necessitates a finding that the jury appropriately construed the term "connected to" to mean "for connection to," because there is legally insufficient evidence that ULT actually connected the accused lighting ballasts to gas discharge lamps.

However, as ULT rightly notes, claim construction is a matter of law reserved for the Court to decide. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970-71 (Fed. Cir. 1995) (en banc) ("[T]he interpretation and construction of patent claims, which define the scope of the patentee's rights under the patent, is a matter of law exclusively for the court."). Therefore, despite the fact that both parties waived their respective claim construction arguments, the Court must now construe the "connected to" language of claim 1 in order to evaluate the verdict. *Id.*

Claim construction is the process of giving proper meaning to the claim language thereby defining the scope of the protection. *See Bell Commc'ns Research, Inc. v. Vitalink Commc'ns Corp.*, 55 F.3d 615, 619 (Fed. Cir. 1995) (internal citations omitted). Claim construction starts with the

language of the claim itself since a patent's claims define the invention to which the patentee is entitled the right to exclude. *Phillips*, 415 F.3d at 1312. "[T]he words of a claim 'are generally given their ordinary and customary meaning.'" *Id.* (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1982)). "[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." *Id.* However, the patentee is free to define his own terms, so long as any special definition given to a term is clearly defined in the specification. *Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1388 (Fed. Cir. 1992). "The claims themselves provide substantial guidance as to the meaning of particular claim terms." *Phillips*, 415 F.3d at 1314.

When construing disputed claim terms the court should look first to the intrinsic record of the patent, including the claims and the specification, to determine the meaning of words in the claims. *Nazomi Commc'ns, Inc. v. Arm Holdings, PLC*, 403 F.3d 1346, 1368 (Fed. Cir. 2005). "We first look to the specification for guidance as to the meaning of claim language." *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1306 (Fed. Cir. 2006). "The specification is always highly relevant to the claim construction analysis. Usually it is dispositive; it is the single best guide to the meaning of a disputed term." *Phillips*, 415 F.3d at 1315. The specification acts as a dictionary when it expressly or implicitly defines terms. *Id.* at 1321. Courts should also refer to the prosecution history if it is in evidence. *Vitronics Corp.*, 90 F.3d at 1582. The prosecution history is part of the intrinsic record and consists of a complete record of all proceedings before the United States Patent and Trademark Office, including prior art cited during the examination of the patent, and express representations made by the applicant as to the scope of the claims. *Phillips*, 415 F.3d at 1321.

The Federal Circuit has also stated that district courts may "rely on extrinsic evidence, which

consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises.” *Id.* (internal quotations omitted). Dictionaries and treatises can be “useful in claim construction[,]” particularly technical dictionaries which may help the court “to better understand the underlying technology and the way in which one of skill in the art might use the claim terms.” *Id.* at 1318 (internal quotations omitted). As to expert testimony, the Federal Circuit has stated:

[E]xtrinsic evidence in the form of expert testimony can be useful to a court for a variety of purposes, such as to provide background on the technology at issue, to explain how an invention works, to ensure that the court’s understanding of the technical aspects of the patent is consistent with that of a person of skill in the art, or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field.

Id. However, “a court should discount any expert testimony that is clearly at odds with the claim construction mandated by the claims themselves, the written description, and the prosecution history, in other words, with the written record of the patent.” *Id.* (internal quotations omitted). Extrinsic evidence is less significant than the intrinsic record and undue reliance on it may pose a risk of changing the meaning of claims, contrary to the public record contained in the written patent. *Id.* at 1317, 1319.

ULT argues that the claim language, specification, prosecution history, and extrinsic evidence together illustrate that one skilled in the art would construe “connected to” in claim 1 to require actual physical connection. *See* Br. Supp. ULT’s JMOL 5-8, ECF No. 246. Looking first to the claim language, ULT argues that the Federal Circuit has consistently construed “connected to” to mean joined together. *Id.* at 5. ULT argues that such a construction is supported by the intrinsic record of the patent, because the language of claim 18 provides for “output terminals for

connection to” the filaments of gas discharge lamps, in direct contrast to the language of claim 1. *Id.* As ULT notes, “[w]hen different words or phrases are used in separate claims, a difference in meanings is presumed.” *Nystrom v. Trex. Co.*, 424 F.3d 1136, 1143 (Fed. Cir. 2005). “However, simply noting the difference in the use of claim language does not end the matter. Different terms or phrases in separate claims may be construed to cover the same subject matter where the written description and prosecution history indicate that such a reading of the terms or phrases is proper.” *Id.*

ULT argues that short of overcoming the presumption, the specification and prosecution history underscore that the “connected to” limitation in claim 1 should not be construed to cover the same subject matter as the “for connection to” language in claim 18. ULT contends that the specification supports the “plain” meaning of “connected to” because every preferred embodiment shows a ballast actually connected to a lamp and because the term “connected to” is used in the specification to refer to actual physical connection. Br. Supp. ULT’s JMOL 6, ECF No. 246. Moreover, ULT argues that the prosecution history supports such an understanding because the inventor, Andrew Bobel, changed the language of claim 1 from “for connection to” to “connected to” in response to the Patent and Trade Office’s (“PTO”) initial rejection of the ‘529 patent. *Id.*

LBC responds that ULT is ignoring the Federal Circuit’s admonishment that claims terms must be given their ordinary meaning as understood by one skilled in the art in the context of the entire patent, rather than their ordinary meaning in a vacuum. *See* LBC’s Resp. ULT’s JMOL 4, ECF No. 247. LBC then cites the testimony of both Dr. Roberts, their infringement expert, and Dr. Giesselmann, ULT’s invalidity expert. *Id.* at 5. Looking to the intrinsic evidence of the ‘529 patent, LBC argues that the patent’s reference to the claimed invention as an “electronic ballast” strongly

supports a construction that does not require actual physical connection to a lamp. *Id.* at 6. Moreover, LBC contends that the patent’s statement that each embodiment represents a circuit “for powering” or “adapted to power” a lamp illustrates that the intrinsic record supports construing “connected to” as interchangeable with “for connection to.” *Id.* at 6-7.

In relevant part, claim 1 of the ‘529 patent provides for “an energy conversion device . . . comprising [*inter alia*] output terminals connected to the filaments of the gas discharge lamp.” In contrast, claim 18 of the ‘529 patent provides for “output terminals for connection to the filaments of the gas discharge lamp.” Given the difference in language, the Court must presume that the inventor meant something different absent strong evidence to the contrary. *Cf. Nystrom*, 424 F.3d at 1143. As discussed below, however, the Court finds that both the intrinsic and extrinsic record strongly support construing the “connected to” language of claim 1 as covering the same subject matter as the “for connection to” language of claim 18. Throughout the patent, Bobel described the claimed invention as an “electronic ballast,” explicitly describing the entire invention as a “control and protection circuit for [an] electronic ballast.” *See* App. Supp. ULT’s JMOL 330, ECF No. 248. Describing the background of his invention, Bobel evaluates a series of circuit patterns used in the electronic ballast industry over the prior decades, before concluding that “it is highly desirable to have a series-resonant ballast for gas discharge lamps.” *Id.* At the close of his summary of the invention, Bobel once again states that “[i]t will be understood that such a device as outlined above will provide a series-resonant ballast for gas discharge lamps.” *Id.* Accordingly, Bobel consistently referred to his invention in the intrinsic record of the ‘529 patent as an electronic ballast, with the main novelty being the control and protection circuit in the ballast described in further detail later in the specification. This self-description of the claimed invention as a control circuit for an

electronic ballast raises a strong presumption that any claim construction must accord with the inventor's specifically claimed invention. "'The construction that stays true to the claim language and most naturally aligns with the *patent's description of the invention* will be, in the end, the correct construction.'" *Nystrom*, 424 F.3d at 1142 (quoting *Phillips*, 415 F.3d at 1316) (emphasis added).

Looking further into the specification, the corresponding structure for the three series current paths described in columns 3 and 4, and described in further detail in columns 7 and 8 of the patent, strongly support construing the term "connected to" as identical to "for connection to." Specifically, the specification's description of Mode B contemplates the ballast as operational in the absence of a gas discharge lamp physically connected to the ballast's output terminals. *See App. Supp. ULT's JMOL 333, ECF No. 248.* "While the device is operational as in Mode A, if the fluorescent lamp is removed out of its holder . . . the transistor turns OFF the device and the oscillations cease." *Id.* The fact that the patent's specification, describing the "details of operation" of the first preferred embodiment of the patent (which represents, per the agreement of the parties, the classic function of the '529 patent according to claim 1), specifically describes the functioning of the ballast when there is no gas discharge lamp connected to the output terminals strongly supports LBC's construction. *Id.* Moreover, such description further bolsters Andrew Bobel's opening claim that the '529 patent claims an invention for a "control and protection circuit for an electronic ballast."

Turning to the prosecution history, the Court agrees with LBC that Bobel's change in the language of claim 1 does not necessarily or clearly constitute a substantive amendment to the claim language meant to alter the claim or to differentiate claim 1 from claim 18. *See LBC's Resp. ULT's JMOL 7-8, ECF No. 247.* ULT states that in response to a PTO rejection of the '529 patent, Bobel

changed the language in claim 1. *See* ULT's JMOL 6, ECF No 246. Since he simultaneously added claim 18, using the "for connection to" language, ULT argues that Bobel "clearly understood . . . that 'connected to' and 'for connection to' have different meaning." *Id.* Such correlation, while superficially reasonable, does not stand up to scrutiny given the nature and import of the PTO's action rejecting the '529 patent. As LBC notes, the PTO action rejected claim 1 as anticipated by Zuchtriegel. LBC's Resp. ULT's JMOL 8, ECF No. 247. Bobel responded by arguing that his particular arrangement of "control means" and "direct current blocking means" differentiated the '529 from the prior art reference. *Id.* In essence, Bobel essentially conceded that the output terminals claim limitation did not represent a novel claim, relying on different elements of claim 1. *Id.* Given that the PTO's action, and Bobel's subsequent response, ignore the output terminals claim limitation, it would be mere speculation to endow the change with any importance. Indeed, LBC's suggestion that Bobel "simply parroted" the PTO is just as likely, if not more likely, than ULT's strained reading of the change. As such, the Court finds that the prosecution history does not provide any evidence in support of either party's construction position.

Lastly, the Court turns to the expert testimony adduced by the parties at trial as they crafted their claim construction arguments for the jury. LBC's infringement expert, Dr. Roberts, testified that he found ULT's proposed construction "nonsensical" in light of the text and purpose of the patent, and strongly advocated construing "connected to" as interchangeable with "for connection to." *See* App. Supp. LBC's Resp. ULT's JMOL 11, ECF No. 248. On cross-examination, ULT's invalidity expert Dr. Giesselmann essentially agreed, responding "Yes" when counsel for LBC asked him if he had "used the words connect to and for connection to . . . interchangeably." *Id.* at 242-43. In contrast, Mr. Burke, ULT's infringement expert, testified that he understood the term "connected

to” to mean “connected to.” *See* App. Supp. ULT’s JMOL 221, ECF No. 246. Moreover, ULT argues that Dr. Giesselmann’s statement is taken out of context, noting that he used the terms interchangeably for the purposes of his invalidity analysis because the prior art references showed a ballast connected to lamps, and because at the time of his report claim 18 was still being asserted in this suit. *See* Br. Supp. ULT’s JMOL 7-8, ECF No. 246.

As discussed *supra*, extrinsic evidence, especially expert testimony adduced at trial, is one of the least reliable evidentiary sources for claim construction purposes. *Cf. Phillips*, 415 F.3d at 1317-19. Nonetheless, despite ULT’s arguments to the contrary, it is telling that both Dr. Roberts and Dr. Giesselmann agreed that the terms “connected to” and “for connection to” should be used interchangeably. While true that Dr. Giesselmann’s report and testimony was directed towards ULT’s invalidity arguments, Dr. Giesselmann nonetheless did agree with Dr. Roberts that the term should be construed interchangeably. Of greater importance, the expert opinions of Dr. Roberts and Dr. Giesselmann accord with the specification and the inventor’s own description of the invention. Given the inventor’s description of the patent’s invention as a circuit for an electronic ballast, the fact that the specification contemplates removal of a lamp during operation of claim 1, and the expert evidence adduced at trial, the Court finds that one skilled in the art would understand “connected to” in claim 1 of the ‘529 patent as meaning “for connection to.”

Given such construction, the Court finds that there was sufficient evidence adduced at trial that the accused ULT products have “output terminals for connection to” a gas discharge lamp.

2. “Control Means” Limitation

ULT moves for judgment as a matter of law on the grounds that LBC failed to present legally sufficient evidence that the accused products infringe the “control means” limitation of the asserted

claims. *See* Br. Supp. ULT's JMOL 8, ECF No. 246. ULT argues that the evidence is insufficient as a matter of law on three grounds: 1) Dr. Roberts' testimony on equivalent structure was conclusory and insufficient as a matter of law under Federal Circuit precedent; 2) no reasonable jury could have concluded that the differences between control circuit 58 and the accused products are insubstantial in light of the undisputed differences; and 3) the evidence was clear that the structures used in the accused products were not available at the time the '529 patent issued.

The parties agreed during claim construction that the "control means" element of claim 1 should be construed according to section 112, ¶6 as a means-plus-function claim term. *See* Am. Claim Construction Order 24, ECF No. 107. In the Jury Charge, the Court explained that the "control means" requirement of the '529 patent recites four functions:

(1) control means

- (a) capable of receiving a control signal from the DC input terminals and;
- (b) operable to effectively initiate oscillations, and;

(2) control means

- (a) capable of receiving a control signal from the resonant converter, and;
- (b) operable to effectively stop the oscillations.

See Jury Charge 8, ECF No. 241. The Court further explained that the "corresponding structure for the 'control means' requirement is the control circuit (58) described at column 3, line 59 through column 4, line 21 of the '529 Patent." *Id.* At column 3, line 59 through column 4, line 21 the patent describes a series of discrete electrical components arrayed in a specific configuration to form three series current paths to fulfill the function of starting and stopping the oscillations of the resonant converter. *See* App. Supp. ULT's JMOL 331, ECF No. 246.

As ULT notes, LBC does not allege that any of the accused products have a structure identical to the corresponding structure described in the specification of the '529 patent. *See* Br. Supp ULT's JMOL 8, ECF No. 246. Rather, LBC argued (and the jury agreed), that the accused products have an equivalent structure to the control circuit 58 of the '529 patent. "For a means-plus-function claim term, the term literally covers an accused device if the relevant structure in the accused device performs the identical function recited in the claim and that structure is identical to or equivalent to the corresponding structure in the specification." *Intellectual Science & Tech., Inc. v. Sony Elecs., Inc.*, 589 F.3d 1179, 1183 (Fed. Cir. 2009) (citing *Welker Bearing Co. v. PHD, Inc.*, 550 F.3d 1090, 1099 (Fed. Cir. 2008)). However, a merely conclusory expert opinion is insufficient evidence to justify a finding of equivalence. *Id.* at 1181-86.

ULT predominantly relies on *Intellectual Science* for the proposition that Dr. Roberts testimony in the instant case is conclusory and insufficient as a matter of law. *See* Br. Supp. ULT's JMOL 8-12, ECF No. 246. In *Intellectual Science*, the Federal Circuit reviewed the conclusions of a special master and district court that an expert's infringement opinion was insufficient to create a genuine issue of material fact for the purposes of summary judgment. *Intellectual Science*, 589 F.3d at 1182-83. The special master identified a structure including four elements and recommended granting summary judgment in favor of non-infringement because the Plaintiff's expert report was "merely conclusory." *Id.* at 1183. According to the special master, the expert report did "not annotate the circuit diagrams upon which [the expert] relie[d]," nor did the report identify a "specific structure" that infringed. *Id.* On appeal, the Federal Circuit held that the report did "not sufficiently identify the structural elements of the claims 'data transmitting means.'" *Id.* at 1184. Specifically, the report at issue in *Intellectual Science* did not pinpoint the structures that performed the claimed

functions, thus failing to show an “infringing structure.” *Id.* Rather, using a diagram without descriptions, the expert report presented “an unexplained array of electronic symbols.” *Id.* The court held that “[e]ven if the elements are common components, the record must specifically identify the infringing features of those components and the reason that one of skill in the art would recognize them as infringing. Without further identification and explanation, a reasonable juror would not be able to determine that those allegedly infringing components are actually present.” *Id.* The expert’s report also required several logical leaps and illogical inferences, resulting from “opaque” identifications. *Id.* The report then concluded, without explanation, that the accused devices performed the same function, in the same way, to achieve the same result. *Id.* at 1185. The Federal Circuit held that conclusory statement “insufficient.” *Id.*

The extensive testimony Dr. Roberts gave on the issue of equivalence on direct and during cross-examination and re-direct is clearly distinguishable from the perfunctory expert report at issue in *Intellectual Science*. Dr. Roberts first identified and explained the structure and function of control circuit 58, and explained in detail the manner in which control circuit 58 operates in the ‘529 patent. *See* App. Supp. LBC’s Resp. ULT’s JMOL 24-26, ECF No. 248. Having detailed the structure, function and operation of the control circuit, Dr. Roberts proceeded to explain the structure of the accused products and why such structures were equivalent for infringement purposes. Dr. Roberts, using schematics in open court, was first asked to identify and highlight the control circuitry found in the Linear Group 1 products. *See* App. Supp. ULT’s JMOL 26, ECF No. 246. Dr. Roberts identified where the DC enters the control means, before testifying that the accused products perform the first function of the ‘529 patent control means of receiving a control signal from the DC input terminals. *Id.* at 26-27. Next, Dr. Roberts testified that the accused

products satisfy the second function of the control means limitation, stating that it initiates oscillations. *Id.* at 27. Of greater import for the instant inquiry, however, Dr. Roberts also explained how the accused product performs the relevant function stating: “The signal flows down through these resistors[,] through these discreet transistors and eventually over the integrated circuit only into a pin labeled EN2[,] which enables oscillations.” *Id.*

Dr. Roberts then proceeded to elaborate, explaining that the integrated circuit (“IC”) used in the accused products constitutes “a large collection of semiconductor parts on a single piece of silicone, and they are put together for specific purposes to do advanced functions. So instead of having a hundred separate transistors and resistors, you grow them all on one small silicone chip.” *Id.* at 28. Dr. Roberts explained that despite the various functions performed by an IC, “you are still limited to a certain number of pins on the package which are electrical connections.” *Id.* Dr. Roberts further explained that in the accused products, the IC “comprises only a portion of the control circuit” because “there are a number of discreet electrical components outside of the [IC] that are part of the control circuit.” Dr. Roberts emphasized that “it is these parts that bear the really close similarity to [the control means] in the ‘529 patent.” *Id.* at 29. Dr. Roberts concluded by issuing the series of conclusory equivalence statements highlighted by ULT in their brief. *Id.* at 30-32. However, in the context of Dr. Roberts’ testimony as a whole, such conclusions stemmed naturally from his analysis, description, and explanation of the structure and operation of the accused products. As such, ULT’s recitation of Dr. Roberts’ testimony on direct examination ignores the context in which his superficially conclusory remarks appear.

Dr. Roberts further expounded on his equivalency analysis on cross-examination, explaining the function of the zener diode in several accused products as equivalent to the diac used in the ‘529

patent. *See* App. Supp. LBC's Resp. ULT's JMOL 122-25. Dr. Roberts described the manner in which, looking to both the schematics of the ULT products and ULT's '652 patent, one could see how the zener diode performed the exact same function as the diac in the '529 patent. *Id.* Indeed, as Dr. Roberts often noted, the '652 patent describes the zener diode as an "equivalent" of a diac. *Id.* Through the course of his testimony, Dr. Roberts carefully explained the reasoning behind his conclusions, replete with discussion of the functions performed by the accused products and the structures that perform those functions. Of greater import, Dr. Roberts compared the manner in which the structures in the accused products worked with the way the corresponding structures of the control means in the '529 patent would operate, proffering exhaustive explanations of their similarities.

Accordingly, the Court finds that Dr. Roberts' testimony is entirely distinguishable from the perfunctory analysis at issue in *Intellectual Science*. In *Intellectual Science* the expert report did not label the schematics at issue, did not detail the corresponding structures in the accused products allegedly performing the claimed functions of the patent, and did not show how such structures would accomplish the claimed function. *See Intellectual Science*, 589 F.3d at 1183-86.

ULT further argues, regardless of the testimony of Dr. Roberts, no reasonable jury could find the structure of the accused products equivalent to the control means of the '529 patent given the undisputed differences adduced at trial. *See* Br. Supp. ULT's JMOL 12-13, ECF No. 246. ULT focuses on two distinctions in particular: 1) that the accused products draw power when shutdown; and 2) that the accused products use a "program start" rather than "rapid start" configuration. *Id.* Despite ULT's characterization, neither distinction was "undisputed." Rather, in regards to the first alleged difference, Andrew Bobel testified that the '529 patent would draw power when shutdown,

just at substantially lower levels than previously required. *See* App. Supp. LBC's Resp. ULT's JMOL 150-51, ECF No. 248. As to the second alleged difference, Dr. Roberts continually testified that programmed start ballasts are a subset of rapid start ballasts. *Id.* at 189-90. Given such conflicting testimony and evidence, the Court resolving a motion for judgment as a matter of law must ignore or reject any evidence the jury was not required to believe. Viewing the evidence in that light, the Court cannot say that no reasonable juror could find the alleged differences insubstantial.

Leaving aside the obvious evidentiary disputes in the record, ULT invites the Court to find that to the extent such differences indisputably exist, such differences are substantial as a matter of law. ULT cites this Court to no supporting case law and, indeed, such a conclusion would fly in the face of the Court's construction of the "control means" limitation. The Court identified neither function in construing the "control means" limitation. *See* Jury Charge 8, ECF No. 241. Moreover, the corresponding structure identified by the Court during claim construction makes no mention of such differences. Accordingly, the Court finds that it was the duty of the jury to weigh the conflicting testimony regarding the allegedly undisputed differences identified by ULT. The Court further finds that, even ignoring the clearly conflicting evidence adduced at trial, ULT's argument seeks to import new limitations into the "control means" limitation in conflict with the Court's claim construction.

ULT's final argument for judgment as a matter of law on the basis of the "control means" limitation is that the ICs in the accused ULT ballasts were not available at the time the '529 patent issued, barring a finding of equivalence. *See* Br. Supp. ULT's JMOL 13-14, ECF No. 246. ULT's argument goes to the heart of the difference between an equivalence analysis under the doctrine of

equivalents and under §112 ¶6. “Structural equivalents and the doctrine of equivalents are ‘closely related.’” *Welker Bearing Co.*, 550 F.3d at 1099 (quoting *Chiuminatta Concrete Concepts, Inc. v. Cardinal Indus., Inc.*, 145 F.3d 1303, 1309 (Fed. Cir. 1998)). “They are related in the sense that both §112 ¶6 and the doctrine of equivalents apply ‘similar analysis of insubstantiality of the differences’ between a disclosed structure and an accused infringing structure.” *Id.* (quoting *Chiuminatta*, 145 F.3d at 1310). “However, an important difference between the two inquiries ‘involves the timing of the separate analyses for an ‘insubstantial change.’” *Id.* (quoting *Al-Site Corp. v. VSI Int’l, Inc.*, 174 F.3d 1308, 1320 (Fed. Cir. 1999)). “Namely, an equivalent structure under §112 ¶6 ‘must have been available at the time of the issuance of the claim,’ whereas the doctrine of equivalents can capture after-arising ‘technology developed after the issuance of the patent.’” *Id.* (quoting *Al-Site Corp.*, 174 F.3d at 1320).

ULT argues that since application specific ICs (“ASIC”) were not available at the time the ‘529 patent issued, they cannot constitute “equivalent structures” as a matter of law. *See* Br. Supp. ULT’s JMOL 13-14, ECF No. 246. ULT argues that “[u]ncontested testimony established that ASICs and microcontrollers . . . were not developed until the late 1990s, after the ‘529 patent issued.” *Id.* The portion of the trial record ULT cites for the above proposition states that “ICs for controlling ballasts were not readily available to us” due to their “expense,” noting that “a more cost effective solution for us was discreet implementation.” *See* App. Supp. ULT’s JMOL 154-55, ECF No. 246. This testimony does not, in fact, stand for the proposition that ICs were not available at the time the ‘529 patent issued. Indeed, at the close of ULT’s cited testimony it states: “At this time frame in 1997, integrated circuits started to become available to us and also in a cost point that was attractive” *Id.* at 156. These portions of the trial record only show that during the early 1990’s

ICs for ballasts were not cost effective, but that such ICs were readily available by 1997. Similarly, ULT states that “Mr. Bobel himself agreed that ICs made for ballasts specifically were not available at the time” of the issuance of the ‘529 patent. *See* Br. Supp. ULT’s JMOL 13-14, ECF No. 246. However, a review of his actual trial testimony illustrates that Bobel stated that he could not find an IC that worked or performed in a ballast the way he “wanted.” *See* App. Supp. ULT’s JMOL 104, ECF No. 246. While the jury may have been able to reasonably infer that ICs for ballasts were not available based on Bobel’s testimony, there is certainly no undisputed testimony to that effect.

In fact, not only is ULT’s cited testimony not on point, but it completely ignores Dr. Roberts’ testimony to the contrary. As noted *supra*, when considering a motion for judgment as a matter of law, “although the court should review the record as a whole, it must disregard all evidence favorable to the moving party that the jury is not required to believe.” *Reeves*, 530 U.S. at 151. Dr. Roberts testified that he began working with ICs in 1964, and saw an IC used in a ballast as early as 1980. *See* App. Supp. LBC’s Resp. ULT’s JMOL 13, ECF No. 248. He further testified that “anybody skilled in the art would have been aware of integrated circuits in 1993.” *Id.* at 16. Once again, given the conflicting evidence on the issue, the Court must disregard the evidence favorable to the moving party (ULT) that the jury was not required to believe.

Accordingly, the Court finds that the jury had legally sufficient evidence to determine that ICs for electronic ballasts were available at the time of the issuance of the ‘529 patent.

3. “Direct Current Blocking Means” Limitation

ULT moves for judgment as a matter of law on the ground that LBC failed to present legally sufficient evidence that the accused products infringe the “direct current blocking means” limitation of the asserted claims. *See* Br. Supp. ULT’s JMOL 14, ECF No. 246. ULT contends that LBC

failed to present legally sufficient evidence that the accused products meet this claim limitation on two grounds: 1) LBC provided no evidence that the capacitors identified by Dr. Roberts as comprising the “direct current blocking means” are the same as or equivalent to the DC blocking capacitors the Court identified as the corresponding structure; and 2) LBC presented no evidence that the accused products are “connected to” gas discharge lamps as required by this claim limitation. *Id.* at 14-16. Dealing with ULT’s second ground first, ULT relies entirely on the arguments made *supra* in contending that the Court should construe “connected to” to require actual physical connection. *Id.* at 16 (citing to Section I of the brief, which discussed the “output terminals” limitation of claim 1). For the same reasons discussed above, the Court finds that ULT’s argument regarding the “connected to” phraseology is not well-taken and does not accord with the way the patent as a whole should be read.

Returning to ULT’s first ground, ULT argues that LBC provided no evidence that the capacitors Dr. Roberts identified in the accused products as comprising the “direct current blocking means” are an identical or equivalent structure. *Id.* at 14. The Court construed the “direct current blocking means” limitation, much like the “control means” limitation discussed above, as a means-plus-function claim governed by §112 ¶6. *See* Jury Charge 8, ECF No. 241. “The claimed function of the ‘direct current blocking means’ is ‘operable to stop the flow of the control signal from the DC input terminals, whenever the DC control path through the filaments is broken due to lamp removal or a broken filament.’ The corresponding structure for the ‘direct current blocking means’ requirement is as follows: ‘DC blocking capacitors (08 and 25) connected to the heatable filaments of the lamp.’” *Id.*

ULT argues that the testimony of “every witness” who addressed the “direct current blocking

means” limitation conclusively established that the accused products do not have a “DC blocking capacitor” coupled to each set of output terminals as required by the Court’s claim construction. *Id.* ULT argues that in his infringement analysis, Dr. Roberts merely identified a capacitor coupled to every set of output terminals “without explanation,” and “collectively called those capacitors the ‘direct current blocking means.’” *Id.* “He never explained why the capacitors he identified were the same as or equivalent to” the corresponding structure identified by the Court. *Id.* at 14-15. ULT argues that while Dr. Roberts’ analysis “might be sufficient if *any* capacitor” could serve as an equivalent to the corresponding structure identified by the Court, LBC itself has already argued that not all capacitors are “DC blocking capacitors.” *Id.* (citing LBC’s Resp. ULT’s Mot. Recon. 1-2, 4-7, ECF No. 184). Indeed, in responding to ULT’s Motion for Reconsideration, LBC argued that the “DC blocking capacitors” identified in the Court’s claim construction “are distinct from other capacitors in the circuit.” *Id.* ULT argues that “LBC cannot have it both ways,” and that either “any” capacitor coupled to a set of output terminals satisfies the “DC blocking means limitation,” requiring a finding of invalidity, or Dr. Roberts’ infringement analysis is insufficient as a matter of law. *See* Br. Supp. ULT’s JMOL 15, ECF No. 246. Moreover, ULT argues that Dr. Roberts’ infringement analysis conflicts with his deposition testimony given only three days prior to the start of trial, in which Dr. Roberts stated that the Court’s claim construction required that each “DC blocking capacitor” be operable to stop the flow of the control signal. *Id.*

LBC responds that ULT’s argument “is based on a flawed premise.” *See* LBC’s Resp. ULT’s JMOL 16, ECF No. 247. LBC states that ULT’s argument is incorrect on two grounds: 1) “it ignores the claim language ‘coupled to the output terminals,’ which require[s] that each set of output terminals be accounted for[;]” and 2) “it fails to distinguish between individual DC blocking

capacitors and the DC blocking means as a whole.” *Id.* at 16-17. LBC contends that the DC blocking capacitors, in both the ‘529 patent and the accused products, must as a whole account for each set of output terminals such that they are collectively operable to stop the flow of the DC control signal whenever the DC control path is broken due to lamp removal or a broken filament. *Id.* at 17. According to LBC, Dr. Roberts correctly identified the function of the “DC blocking means,” the proper corresponding structure, and clearly explained the manner in which structures in the accused products were equivalent to the structures identified in the ‘529 patent. *Id.*

Dr. Roberts testified that the function of the “DC blocking means” limitation was to stop the flow of the control signal whenever the DC control path was broken due to lamp removal or a broken filament. *See App. Supp. LBC’s Resp. ULT’s JMOL 60-62, ECF No. 248.* He then identified a collection of capacitors in each of the accused products which were both operable to stop the flow of the DC control signal, and capable of accounting for each set of output terminals. *Id.* at 60-63. For example, testifying regarding the representative Linear Group 1 product, Dr. Roberts carefully identified three separate capacitors as “DC blocking capacitors,” noting which capacitors were coupled to which set of output terminals. *See App. Supp. ULT’s JMOL 35, ECF No. 246.* He then explained that those three capacitors collectively compose a “single DC blocking means.” *Id.* Dr. Roberts further explained to the jury that “[b]ecause the middle set of terminals is connected to these two series connected filaments, one in each lamp, if either lamp is removed it is like pulling out a lamp on a Christmas tree string. If either lamp is removed then the connection is broken to the middle terminal and the DC current – and the DC control current will stop.” *Id.* at 36. Accordingly, as with the “control means” limitation discussed above, Dr. Roberts carefully identified the structures (discreet capacitors) in the accused products that perform the function of the “DC

blocking means.” *Id.* at 35-37. On that basis, Dr. Roberts testified that the accused products literally infringe the ‘529 patent using identical structures, to perform an identical function, in an identical manner.

“For a means-plus-function claim term, the term literally covers an accused device if the relevant structure in the accused device performs the identical function recited in the claim and that structure is identical to or equivalent to the corresponding structure in the specification.” *Intellectual Science*, 589 F.3d at 1183 (Fed. Cir. 2009) (citing *Welker Bearing*, 550 at 1099). Dr. Roberts’ testimony is clearly a legally sufficient evidentiary basis for the jury to conclude that the accused products perform the function of stopping the DC control signal whenever a gas discharge lamps is removed or has a broken filament. Moreover, Dr. Roberts’ testimony shows that the accused products, like the ‘529 patent, use capacitors to perform this function.

ULT argues that even if a reasonable jury could find that the accused products literally infringe the “direct current blocking means” limitation of the ‘529 patent, a reasonable jury could not find both literal infringement and simultaneously find that the ‘529 patent was not invalid as anticipated. *See* Br. Supp. ULT’s JMOL 15, ECF No. 246. However, ULT fails to recognize that they had the burden to prove to the jury by *clear and convincing* evidence that the cited Japanese prior art references anticipated each and every limitation of the ‘529 patent. A reasonable jury could find infringement by a preponderance of the evidence, without being able to find invalidity by clear and convincing evidence. As discussed at greater length *infra*, the jury had a reasonable evidentiary basis to find that ULT did not meet its burden to prove invalidity by clear and convincing evidence.

Accordingly, the Court declines ULT’s motion for judgment as a matter of law on the basis of the “direct current blocking means” limitation.

4. Linear Group 3 Products

ULT seeks judgment as a matter of law on the Linear Group 3 products on the basis that there was legally insufficient evidence of literal infringement that the products infringe claims 1, 2 and 5 of the '529 patent. *See* Br. Supp. ULT's JMOL 16, ECF No. 246. ULT argues that since the Court struck Dr. Roberts' testimony regarding the Linear Group 3 products, and the exhibits presented in conjunction with Dr. Roberts' testimony, the jury's verdict of infringement on such products was "completely without evidentiary support." *Id.* According to ULT, the only record evidence regarding the accused Linear Group 3 products before the jury was Joint Exhibit 81, and the testimony of Mr. Burke that the products do not meet the "direct current blocking means" or "control means" limitations of the '529 patent. *Id.* at 17. ULT argues that Joint Exhibit 81 displays the DC control signal only passing through one lamp, which is insufficient to establish infringement. *Id.*

LBC argues that ULT misrepresents the state of the trial record and the extant record evidence before the jury. *See* LBC's Resp. ULT's JMOL 18, ECF No. 247. First, LBC contends that Joint Exhibit 81 provides a detailed schematic for the Linear Group 3 representative products, illustrating its component parts and showing how it works. *Id.* LBC argues that the jury "could have compared" that schematic to the other schematics in evidence containing Dr. Roberts' markings. *Id.* Moreover, LBC argues that because both Dr. Roberts and Mr. Burke explained that the Linear Group 3 products function almost identically to the Linear Group 1 and 2 products, the jury could have reasonably concluded that the Linear Group 3 products infringe the '529 patent. *Id.* at 19.

Dr. Roberts testified at length during trial about the structure and function of the Linear

Group 3 representative product, concluding that the products literally infringe each claim limitation of the '529 patent. *See* App. Supp. ULT's JMOL 44-52, ECF No. 246. During his testimony, Dr. Roberts drew the DC control path, showing the path going through the output terminals of both the upper and lower lamp in a two-lamp configuration of the Linear Group 3 representative product. *Id.* at 45-48. Dr. Roberts' testimony, however, conflicted with his expert report and his opinion had not been disclosed to ULT until he was actually on the stand. As a result, the Court struck the entirety of Dr. Roberts' testimony regarding the Linear Group 3 products, and struck the exhibits created and presented during the course of his testimony. *Id.* at 56. ULT argues that because the Court struck the above evidence, the jury could only rely on Joint Exhibit 81, showing Dr. Roberts' original, one-lamp DC control path, and the testimony of Mr. Burke.

Problematically for ULT, the great weight of the evidence shows that virtually every witness that testified grouped the Linear Group 3 products with the Linear Group 1 and 2 products for the purposes of infringement. Dr. Roberts explained that ULT used the same IC in all of their Linear Group 1, 2, and 3 products, providing for an identical "equivalence" analysis for all three product groups. *See* App. Supp. LBC's Resp. ULT's JMOL 75-76, ECF No. 248. Moreover, Mr. Burke and ULT grouped "the ULT Linear 1 to 3 ballasts" together on direct. *Id.* at 215-16. Mr. Burke expounded his non-infringement expert opinions regarding all three products collectively, noting that the products were the "same" in a wide variety of ways. *Id.* at 215-17. However, Mr. Burke did note that the products shut down oscillations and sense fault differently. *Id.* at 217. In particular, Mr. Burke explained that the Linear Group 3 products use "two different types of shut downs," a voltage and a current sense. *Id.* at 220. This is almost identical to his testimony regarding Linear Group 1, and underscored ULT's attempts to avoid a jury finding of equivalence on the

“control means” limitation of the ‘529 patent. *Id.* Mr. Burke then concluded that he viewed “the linear ballasts” as “substantially different” from the ‘529 patent. *Id.* at 220-21.

The record evidence regarding the Linear Group 3 products consists of Joint Exhibit 81, the non-struck testimony of Dr. Roberts that the linear products use the same IC, and Mr. Burke’s testimony. Mr. Burke, in particular, continuously grouped the products together, differentiating them solely for the purpose of discussing their slightly different “control means.” *Id.* at 220. The great weight of the evidence, presented by both parties, underscored the overriding similarity between the linear products, with Mr. Burke highlighting only the minimal differences referenced above. Combined with the schematic and the testimony of Dr. Roberts, and giving due deference to the jury verdict, the Court finds that reasonable jurors could rely on the testimony of the arrayed experts and conclude that the Linear Group 3 products infringed the ‘529 patent in the same way and for the same reasons as the Linear Group 1 and 2 products.

5. Invalidity

ULT seeks judgment as a matter of law on the basis that the asserted claims of the ‘529 patent are invalid as anticipated by JP ‘997 and JP ‘799. *See* Br. Supp. ULT’s JMOL 17, ECF No. 246. ULT contends that it presented “largely uncontested” evidence of anticipation, and that “[o]n the few contested points” LBC’s arguments run counter to the claim construction, claim language, or LBC’s own infringement contentions.

“Anticipation requires a showing that each element of the claim at issue, properly construed, is found in a single prior art reference.” *Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1323 (Fed. Cir. 2011). “Under § 282 of the Patent Act of 1952, ‘[a] patent shall be presumed valid’ and ‘[t]he burden of establishing invalidity of a patent or any claim thereof shall rest on the party

asserting such invalidity.’” *Microsoft Corp. v. i4i Ltd. P’ship*, 564 U.S. ___, No. 10-290, at 1 (June 9, 2011) (quoting 35 U.S.C. § 282). “But, while the statute explicitly specifies the burden of proof, it includes no express articulation of the standard of proof.” *Id.* at 6. However, “by stating that a patent is ‘presumed valid,’ Congress used a term with a settled meaning in the common law.” *Id.* at 7. Analyzing the common law import of a patent’s presumption of validity, the Supreme Court held that a defendant must prove invalidity by “clear and convincing evidence.” *Id.* at 8 (“According to its settled meaning, a defendant raising an invalidity defense bore ‘a heavy burden of persuasion,’ requiring proof by clear and convincing evidence.”) (quoting *Radio Corp. of Am. v. Radio Eng’g Labs.*, 292 U.S. 1, 8 (1934)). In accord with this recent Supreme Court precedent, the Court instructed the jury that “[i]n order to overcome the presumption of validity, Defendant must show it is highly probable the asserted claims of the patent are invalid.” *See* Jury Charge 15, ECF No. 241.

In reviewing the jury verdict, the Court must be mindful that “[a]nticipation is a factual determination that is reviewed for substantial evidence when decided by a jury.” *Koito Mfg. Co. v. Turn-Key-Tech, LLC*, 381 F.3d 1142, 1149 (Fed. Cir. 2004). The Court may grant judgment notwithstanding a jury verdict of anticipation “only if the jury’s factual findings are not supported by substantial evidence.” *Baxter Int’l, Inc. v. McGaw, Inc.*, 149 F.3d 1321, 1332 (Fed. Cir. 1998).

A. ‘JP 997

ULT contends that the Court should enter judgment in its favor on the basis that the asserted claims of the ‘529 patent are invalid as anticipated by JP ‘997. *Id.* ULT invalidity expert Professor Michael Giesselmann (“Giesselmann”) testified that JP ‘997 disclosed every element of claim 1 of the ‘529 patent. *Id.* ULT argues that LBC failed to rebut Giesselmann’s testimony that ‘JP 997

taught all the claim limitations of claim 1, except in regards to the “direct current blocking means” limitation. *See* Br. Supp. ULT’s JMOL 18, ECF No. 246. ULT further argues that even on the “direct current blocking means” limitation, LBC did not dispute Giesselmann’s testimony that capacitors C2a and C2b perform the DC blocking means, and that such capacitors were connected to each of the four lamp filaments. *Id.* ULT contends that Dr. Zane’s rebuttal, that C2a and C2b were not “DC blocking capacitors” because they did not heat the filaments and were not connected in series with secondary windings, violates the Court’s claim construction of the “direct current blocking means” limitation. *Id.* Moreover, ULT argues that Dr. Zane stated that a capacitor must be connected to “every” output terminal, while under the Court’s construction a capacitor need only be connected to each set of output terminals. *Id.*

Giesselman also testified that JP ‘997 anticipates claim 2 and claim 5 of the ‘529 patent. According to ULT, Dr. Zane did not dispute Giesselmann’s testimony regarding claim 2. *Id.* at 19. Dr. Zane did dispute Giesselmann’s testimony regarding claim 5, but ULT contends that his testimony conflicted with LBC’s infringement theory. *Id.* Accordingly, ULT argues that no reasonable juror could have found claim 5 both infringed and invalid. *Id.*

LBC responds that the trial record provides a legally sufficient evidentiary basis for the jury’s verdict that ULT did not meet its burden to prove invalidity by clear and convincing evidence. *See* LBC’s Resp. ULT’s JMOL 19, ECF No. 247. LBC argues that Dr. Zane testified that JP ‘997 does not teach the “direct current blocking means” limitation because the alleged means in the prior art reference does not account for each set of output terminals. *Id.* at 19-20. LBC also contends that Giesselmann’s testimony was substantially undercut on cross-examination, allowing the jury to conclude that ULT did not meet its weighty evidentiary burden. *Id.*

Dr. Zane testified that due to the “different approach” to approach to heating the filaments taught by JP ‘997, the inventor failed to anticipate the “direct current blocking means” limitation of claim 1. *See* App. Supp. LBC’s Resp. ULT’s JMOL 268-69, ECF No. 248. Specifically, Dr. Zane agreed “that the DC blocking means is the collection of the DC blocking capacitors” and that they “collectively must account for each set of output terminals.” *Id.* at 269. Dr. Zane then agreed that “it is for that reason that this reference does not teach DC blocking means.” *Id.* Moreover, as noted by LBC, on cross-examination Giesselmann explained that he would have to “redraw” the schematic of JP ‘997 to show how one of the alleged “DC blocking capacitors” was connected to a certain set of output terminals. *Id.* at 248.

The Court may only grant ULT’s motion “if the jury’s factual findings are not supported by substantial evidence.” *Baxter Int’l, Inc. v. McGaw, Inc.*, 149 F.3d 1321, 1332 (Fed. Cir. 1998). ULT contends that Giesselmann presented undisputed testimony that the capacitors C2a and C2b “were connected to each of the four lamp filaments.” *See* Br. Supp. ULT’s JMOL 18, ECF No. 246. To the contrary, however, Giesselmann’s allegedly undisputed expert opinion was actually undercut on cross-examination. During direct examination, Giesselmann was asked about the whether JP ‘997 disclosed the direct current blocking means. *See* App. Supp. ULT’s JMOL 238, ECF No. 246. He responded: “Yeah. You would have to redraw this a little bit to show it, but so basically direct current cannot go past here. These capacitors, they act as DC blocking capacitors.” *Id.* However, Geiselmann testified that he did not disclose this connection in his report or at anytime prior to trial. *Id.* at 239-40.

On cross-examination, counsel for LBC asked Gieselmann about the capacitor he attempted to re-draw in an effort to show it connected to a particular set of output terminals. *See* App. Supp.

LBC's Resp. ULT's JMOL 248, ECF No. 248. Giesselmann testified that the capacitor C 30 was "effectively connected to two" output terminals. *Id.* He then testified that he wanted to "redraw" his schematic, to show how it accounted for a different set of output terminals. *Id.* When asked if he had disclosed such a drawing in his report, Gieselmann responded "no." *Id.* Counsel for LBC asked similar questions regarding capacitor C 26, eliciting testimony from Giesselmann that nothing in his drawings or report showed that the capacitor accounted for the output terminals he had previously testified that they accounted for. *Id.* at 249. Moreover, as noted by LBC, Dr. Zane specifically testified that JP '997 failed to teach DC blocking means capable of accounting for each "set" of output terminals. *See* LBC's Resp. ULT's JMOL 20, ECF No. 247. While ULT argues that Dr. Zane incorrectly testified that a capacitor must be directly connected to every output terminal, he clearly stated "[c]orrect" when asked whether the DC blocking means must account for each *set* of output terminals. *See* App. Supp. LBC's Resp. ULT's JMOL 269, ECF No. 248. On that basis, Dr. Zane testified that JP '997 does not teach the "direct current blocking means" limitation of claim 1 of the '529 patent.

Considering the extant evidence in the light most favorable to the non-movant, the Court finds that the jury's verdict not finding invalidity on the basis of JP '997 is supported by substantial evidence.

B. JP '799

ULT argues that Dr. Zane attempted to draw two distinctions between the '529 patent and JP '799, and that both distinctions conflict with LBC's infringement contentions. *See* Br. Supp. ULT's JMOL 19, ECF No. 246.

According to ULT, Dr. Zane attempted to argue that claim 1 requires a resonant signal,

specifically an AC signal. *Id.* at 19-20. ULT argues that a reasonable juror could not have accepted this as a distinction over prior art because that language is not found in the claim or in the specification. *Id.* at 20. Moreover, according to ULT, Dr. Zane's contention that JP '799 does not disclose an equivalent structure to the control means of the '529 patent runs counter to LBC's infringement contentions. *Id.* Specifically, ULT argues that Dr. Zane's contention that because part of the "control means" identified by Giesselmann was just a "box" it did not disclose an equivalent structure, runs counter to LBC's contention that the ICs contained in the ULT products use a structure equivalent to the control means in the '529 patent. *Id.* LBC responds that Dr. Zane clearly testified that JP '799 does not anticipate any of the asserted claims because it does not teach the control means limitation. *See* LBC's Resp. ULT's JMOL 20, ECF No. 247.

ULT's contention that Dr. Zane's testimony regarding the "black box" displayed in JP '799 runs counter (or is logically inconsistent) with LBC's infringement contentions regarding the ICs in the accused products ignores the substantial differences between the testimony of Dr. Roberts (on the ICs) and Giesselmann on the "black box." Neither Giesselmann nor ULT presented evidence as to the structure, makeup, or precise function of the "black box." In contrast, Dr. Roberts explained precisely what the "box" on the accused products was (an IC), what it represented, how it worked, and how it performed the identical function of the control means. The contrast in the extent and quality of the testimony on these "boxes" is stark, and ULT creates a false contradiction in seeking to compare them.

Indeed, Dr. Zane's testimony underscores these differences. As Dr. Zane noted, the means for initiating the oscillations in JP '799 is "an empty box." *See* App. Supp. LBC's Resp. ULT's JMOL 265, ECF No. 247. He stated that while he could "insinuate" or "imagine" the makeup and

nature of the box, “there is just no[t] sufficient detail included in this patent” to actually compare it to the ‘529 patent. *Id.* at 265-66. He then testified that he could not determine if the box represented an IC, microcontroller, or series of specially designed electrical component. *Id.*

Given the paucity of testimony regarding the manner in which JP ‘799 teaches the “control means” limitation of the ‘529 patent, the Court finds that the jury’s verdict not finding invalidity is supported by substantial evidence.

6. Marking Requirement

ULT contends that no reasonable jury could find that it is more probable than not that the licensees of the ‘529 patent complied with the marking statute, precluding LBC from collecting damages for the time prior to when ULT was given actual notice that it was alleged to infringe the ‘529 patent. *See* Br. Supp. ULT’s JMOL 23-25, ECF No. 246.

Under 35 U.S.C. § 287(a), a patentee or licensee selling a patented product must mark that product as patented to put the public on notice. “In determining whether the patentee marked its products sufficiently to comply with the constructive notice requirement [of § 287(a)], the focus is not on what the infringer actually knew, but on whether the patentee’s actions were sufficient in the circumstances, to provide notice *in rem.*” *Nike, Inc. v. Wal-Mart Stores, Inc.*, 138 F.3d 1437, 1446 (Fed. Cir. 1998) (citing *Amsted Indus. v. Buckeye Steel Castings*, 24 F.3d 178, 187 (Fed. Cir. 1994)). “Thus the statute defines that ‘[a patentee] is entitled to damages from the time when it either began marking its product in compliance with section 287(a)[, constructive notice] or when it actually notified [the accused infringer] of its infringement, whichever was earlier.’” *Maxwell v. J. Baker, Inc.*, 86 F.3d 1098, 1111 (Fed. Cir. 1996) (quoting *Am. Med. Sys., Inc. v. Med. Eng’g Corp.*, 6 F.3d 1523, 1537 (Fed. Cir. 1993)). The patentee must prove compliance with the marking statute by a

preponderance of the evidence. *Id.* “Compliance with section 287(a) is a question of fact,” reviewed for substantial evidence. *Id.*

“[L]icensees . . . and other authorized parties . . . must also comply” with the marking requirements of § 287(a). *Id.* “However, with third parties unrelated to the patentee, it is often more difficult for a patentee to ensure compliance with the marking provisions.” *Id.* “Therefore, when third parties are involved, the number of [items] sold without proper marking is not conclusive of the issue [of] whether the patentee’s marking was ‘substantially consistent and continuous.’” *Id.* Rather, “[w]hen failure to mark is caused by someone other than the patentee, the court may consider whether the patentee made reasonable efforts to ensure compliance with the marking requirements.” *Id.* at 1112.

ULT contends that LBC did not present sufficient evidence of consistent and continuous marking. *See* Br. Supp. ULT’s JMOL 24, ECF No. 246. According to ULT, the “scant and conclusory” evidence proffered by LBC during trial cannot show substantial and continuous marking. According to ULT, Mr. Bobel’s testimony and the presentation of one marked Robertson electronic ballast fails as a matter of law. *Id.* LBC responds that the jury heard “ample” evidence that Bobel complied with the marking requirements. *See* LBC’s Resp. ULT’s JMOL 23, ECF No. 247. Specifically, LBC notes that Bobel’s license with Robertson Transformer Company (“Robertson”) provided for marking, that Bobel testified that he required and policed marking of such products, and that in support of such testimony Bobel presented a marked Robertson ballast. *Id.* Lastly, LBC cites a 2008 letter from Bobel to Robertson terminating their license agreement, in which Bobel identified unpaid royalties as the sole reason for Robertson’s default under the agreement. *Id.*

ULT relies on an unpublished Federal Circuit decision, *K&K Jump Start/Chargers, Inc. v. Schumacher Electric Corp.*, 52 F. App'x 135 (Fed. Cir. Nov. 25, 2002), for the proposition that LBC's evidence of marking was insufficient as a matter of law. In *K&K Jump Start*, the court reviewed the district court's refusal to grant judgment as a matter of law that the plaintiff (K&K) was only entitled to damages from after the date the suit was filed. 52 F. App'x at 141. The patentee had licensed the patent at issue to a licensee, who agreed to mark any products in accordance with § 287(a) in their licensing contract. *Id.* "Although there was a provision in the contract between K&K and Century[, the licensee,] requiring marking, K&K took *no steps* to determine if Century was actually marking the products until after the start of the current litigation." *Id.* The *K&K Jumpstart* court held that the district court should have granted judgment in the defendant's favor that K&K failed to comply with the marking requirements. *Id.* However, the court continued, noting that "[w]e do not hold that bare evidence of a contractual provision requiring marking can never constitute reasonable efforts by the patentee to ensure that a licensee is marking the products properly, but under the circumstances here the jury's conclusion that K&K has met its burden to show compliance is not supported by substantial evidence." *Id.*

Despite ULT's insistence to the contrary, LBC presented substantially more evidence than the plaintiff in *K&K Jumpstart*. In *K&K Jumpstart*, the plaintiff submitted "bare evidence of a contractual provision requiring marking." *Id.* While the Federal Circuit noted the importance of such a provision, the court nonetheless held that the "bare" provision was insufficient based on the facts in that case. *Id.* In addition to marking provisions in each licensing contract, LBC also presented testimony from Bobel that he consistently policed marking at Robertson. Moreover, LBC bolstered such evidence by presenting a Robertson electronic ballast containing a mark identifying

the ‘529 patent. This array of evidence stands in marked contrast to the “bare contractual provision” solely relied on by the plaintiff in *K&K Jumpstart*. LBC presented a contractual provision bolstered by Bobel’s undisputed testimony, and an electronic ballast actually bearing the mark of the ‘529 patent. Moreover, any alleged failure to mark would have been caused by someone other than the patentee, so the Court must look to evidence of diligence on the part of the patentee rather than relying purely upon evidence of actual marking. *Cf. Maxwell*, 86 F.3d at 1111-12.

Accordingly, considering the undisputed evidence of marking in the light most favorable to the non-movant, the Court finds that there was clear and substantial evidence sufficient to support the jury’s verdict of marking.

7. Damages

ULT seeks judgment that the “3,000,000.00” written by the jury on the jury verdict form represents a lump sum royalty payment. *See* Br. Supp. ULT’s JMOL 21, ECF No. 246. ULT contends that based on the evidence adduced at trial, and counsel for LBC’s refusal to allow the jury to indicate whether any damages award represented a lump sum or running royalty, the Court should find that the damages award in the instant case represents a lump sum royalty payment. *Id.* at 21-23. LBC responds that the weight of the evidence supports deeming the damages award a running royalty rate based on the multiple running royalty licenses LBC presented to the jury. *See* LBC’s Resp. ULT’s JMOL 20, ECF No. 247. Moreover, LBC rejects ULT’s contention that it refused ULT’s efforts to clarify the jury form, contending that ULT’s alleged efforts amounted to “a thinly veiled attempt to have the jury render a verdict that would cover future infringement.” *Id.* at 20-21. LBC also moves this Court, in both its Response and in its Motion for Entry of Judgment, to enter a permanent injunction against ULT, arguing that the damages award represents a running royalty

for those infringing goods sold before trial. *Id.* at 21.

“A patentee is entitled to ‘damages adequate to compensate for infringement, but in no event less than a reasonable royalty.’” *Worldtech Sys. Inc. v. Integrated Networks Solutions, Inc.*, 609 F.3d 1308, 1319 (Fed. Cir. 2010) (quoting 35 U.S.C. § 284). In assessing a damages award, “a court must ask, “[H]ad the Infringer not infringed, what would [the] Patent Holder[] have made?”” *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1324 (Fed. Cir. 2009) (quoting *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 507 (1964)). “The burden of proving damages falls on the patentee.” *Id.* “A reasonable royalty can be calculated from an established royalty, the infringer’s profit projections for infringing sales, or a hypothetical negotiation between the patentee and infringer based on the factors in *Georgia-Pacific*.” *Id.* (citing *Lucent Techs. v. Gateway, Inc.*, 580 F.3d 1301, 1324 (Fed. Cir. 2009)). “The hypothetical negotiation ‘attempts to ascertain the royalty upon which the parties would have agreed had they successfully negotiated an agreement just before infringement began,’ and ‘necessarily involves an element of approximation and uncertainty.’” *Worldtech*, 609 F.3d at 1320 (quoting *Lucent*, 580 F.3d at 1324-25). Such a negotiation can result in either a running royalty rate, or a lump-sum royalty payment. *See Lucent*, 580 F.3d at 1325.

In this case, the verdict form question under Damages asked: “What sum of money, if any, do you find from a preponderance of the evidence is adequate to compensate Plaintiff for Defendant’s conduct that you found to infringe? Provide the amount, if any, in dollars and cents.” *See* Jury Charge 26, ECF No. 241. On the line below this question, the foreman wrote “3,000,000.00.” *Id.* During the charge conference, counsel for ULT argued that “we should have some way for the jury to tell us what type of award they’re giving.” *See* App. Supp. ULT’s JMOL

304, ECF No. 246. Counsel for LBC responded that they were not seeking, and the jury could not award, “future damages” meaning no further instruction was necessary.” *Id.* at 305. The Court declined to add the additional instruction. *Id.* at 311-13. However, as anticipated by counsel for ULT, the parties now debate the import of the jury’s damages award.

In *Telecordia Technologies, Inc. v. Cisco Systems, Inc.*, the Federal Circuit dealt with a similarly ambiguous jury verdict. 612 F.3d 1365, 1378 (Fed. Cir. 2010). In that case, the defendant appealed the district court’s damages decision that the notation “\$6,500,000 (6.5 MIL)” only compensated the plaintiff for past infringement. *Id.* Reviewing the district court’s decision, the Federal Circuit stated that the “verdict form is unclear whether the jury compensated Telecordia only for Cisco’s past infringement or for both past and ongoing infringement.” *Id.* Cisco argued that the award represented “a paid-up, lump-sum licensing fee.” *Id.* at 1377-78. The appellate court noted that “[d]istrict courts have broad discretion to interpret an ambiguous verdict form” and are in the best “position to assess whether the verdict figure represented past infringement as well as ongoing infringement.” *Id.* at 1378. In *Telecordia*, the jury award was closer to the amount proposed by Cisco than the award proposed by Telecordia, but neither party had proposed the 6.5 million. *Id.* Ultimately, the Federal Circuit held that the district court’s decision was not clearly erroneous.

Looking to the evidence adduced at trial, Bobel clearly enunciated a preference for a lump-sum payment, even when those payments were accompanied by running royalty rates. ULT presented evidence through Mr. Milani that the result of a hypothetical negotiation would be a \$1.5 million lump-sum royalty payment licensing the patent to ULT through its expiration. In contrast, LBC’s expert, Mr. Gallagher, proposed damages awards based on various running royalty rates, including 4.5%, 6.5% and 7.5%. *See App. Supp. ULT’s JMOL 131-33, ECF No. 246.* These

royalty rates, applied to ULT sales of accused products through April 30, 2011, result in proposed damages awards of \$9.3 million, \$13.5 million, and \$15.6 million. *Id.* Moreover, Mr. Gallagher specifically testified that, in his opinion, the appropriate damages award “would be something towards the higher end.” *Id.* at 133. Indeed, Mr. Gallagher opined that, in the jury’s position, he would apply a running royalty rate of 6%, resulting in a damages award for past infringement equaling \$12,943,000. *Id.* LBC argues that, despite this discrepancy, the Court should consider the quantity of running royalty rate-based licenses LBC presented to the jury. *See* LBC’s Resp. ULT’s JMOL 21, ECF No. 247 (“LBC presented the jury with evidence of multiple licenses that relied on a running royalty rate.”). LBC argues that ULT “attempts to ignore the thrust of these licenses by only considering their upfront payment provisions.” *Id.* To the contrary, ULT focuses on those provisions because they underscore Bobel’s testimony regarding the importance of up front, lump-sum royalty payments. These provisions, in conjunction with Bobel’s testimony, make it more likely than not that Bobel would have entered into a lump-sum license agreement in the hypothetical negotiation.

Accordingly, given the evidence adduced at trial, the similarity between the damages verdict and ULT’s damages position, the extremely close similarity to the TCP license entered into by Bobel, and the emphasis Bobel admittedly placed on lump-sum payments, the Court finds that the ambiguous damages verdict of “3,000,00.00” should be construed to represent a lump-sum royalty payment, which would grant ULT a license to use the ‘529 patent from the date of entry through the expiration of the patent.

IV. MOTION FOR ENTRY OF JUDGMENT

LBC filed a motion for entry of judgment seeking: 1) an award of prejudgment and post-

judgment interest and entry of the \$3,000,000.00 damages award; 2) a finding that this is an exceptional case under 35 U.S.C. § 285 on the basis of ULT's litigation misconduct, justifying an award of attorney's fees; 3) a permanent injunction barring ULT from continuing to infringe claims 1, 2 and 5 of the '529 patent; and 4) a declaration stating that the '529 patent is infringed and valid. *See* LBC's Mot. Entry Judgment 1, ECF No. 244.

Preliminarily, pursuant to the Court's finding that the damages verdict of \$3,000,000.00 represents a lump-sum royalty agreement, LBC's request for a permanent injunction is **DENIED**. Under the Court's construction of the ambiguous jury verdict, the parties of the hypothetical negotiation agreed on a \$3,000,000.00 lump-sum payment in return for a license to practice the '529 patent through the patent's expiration. Accordingly, despite the Court upholding the finding of infringement, there is no basis for a permanent injunction as the damages cover ULT's licensing through the expiration of the patent in 2013. Moreover, as noted by ULT, LBC seeks entry of a declaratory judgment pursuant to ULT's counterclaim for declaratory judgment. *See* LBC's Mot. Entry Judgment 16, ECF No. 244. LBC never pled, and has never pled, a claim for declaratory relief. Further, such a request, in addition to being untimely post-trial was also rendered moot by the verdict. LBC did not respond to ULT's arguments in its Reply. *See* LBC's Reply, ECF No. 250. Accordingly, LBC's request for entry of declaratory relief is **DENIED** as untimely and moot.

Having dealt with the above issues, the Court will now consider LBC's request for prejudgment and post-judgment interest, and LBC's contention that this is an exceptional case justifying an award of attorney's fees.

1. Interest

LBC seeks an award of prejudgment and post-judgment interest applied to the damages

verdict at the current statutory rate of 5%. *See* LBC's Mot. Entry Judgment 1-4, ECF No. 244. ULT responds that the Court should deny or limit LBC's request for prejudgment interest based on the undue delay in commencing the instant suit, and that such interest should be calculated using the U.S. Treasury Bill rate ("T-rate"), compounded annually. *See* ULT's Resp. LBC's Mot. Entry Judgment 19-20, ECF No. 249. ULT further argues that LBC proposes a post-judgment interest rate at variance with current law. *Id.* at 24.

Section 284 of the Patent Act provides that "[u]pon finding for the claimant the court shall award the claimant damages adequate to compensate for infringement . . . together with interest and costs as fixed by the court." 35 U.S.C. § 284. "[P]rejudgment interest should ordinarily be awarded where necessary to afford the plaintiff full compensation for the infringement." *Gen. Motors Corp. v. Devex Corp.*, 461 U.S. 648, 655 (1983). "In the typical case an award of prejudgment interest is necessary to ensure that the patent owner is placed in as good a position as he would have been in had the infringer entered into a reasonable royalty agreement." *Id.* (citing *Waite v. United States*, 282 U.S. 508, 509 (1933)). "An award of interest from the time that the royalty payments would have been received merely serves to make the patent owner whole, since his damages consist not only of the value of the royalty payments by also of the foregone use of the money between the time of infringement and the date of the judgment." *Id.* at 655-56.

"[P]rejudgment interest should ordinarily be awarded absent some justification for withholding such an award." *Id.* at 657. "[I]t may be appropriate to limit prejudgment interest, or perhaps deny it altogether, where the patent owner has been responsible for undue delay in prosecuting the lawsuit." *Id.* "The appropriate interest rate is within the discretion of the court, and may be fixed at the statutory rate or at the higher prime rate or corporate bond rate, according to the

circumstances.” *Kerwit Med. Prods., Inc. v. N&H Instruments, Inc.*, 224 U.S.P.Q 679, 691 (N.D. Tex. 1984) (citing *Gyromat Corp. v. Champion Spark Plug Co.*, 735 F.2d 549, 556-57 (Fed. Cir. 1984)). “[T]he determination whether to award simple or compound interest similarly is a matter largely within the discretion of the district court.” *Gyromat Corp.*, 735 F.2d at 557.

ULT first argues that the Court should deny or limit any award of prejudgment interest based on LBC, or its predecessor-in-interest’s, undue delay in bringing the instant suit. *See* ULT’s Resp. LBC’s Mot. Entry Judgement 19, ECF No. 249. As ULT notes, it may be appropriate to limit or deny prejudgment interest where the patent owner unduly delays prosecuting the lawsuit, unjustifiably inflating the damages award. *Id.* at 19-20. ULT argues that LBC’s predecessor-in-interest, Mr. Bobel, unnecessarily delayed bringing this suit. *Id.* at 21. It is undisputed that by 2005, Mr. Bobel asserted that several ULT products infringed the ‘529 patent. *Id.* ULT, through their counsel Mr. Mark Patterson, replied to Mr. Bobel in 2006, informing him that ULT contended that it did not infringe the ‘529 patent and that the patent was invalid. *Id.* The instant suit was not filed until February 24, 2009, almost three years after ULT responded to Bobel’s letter. *See* Orig. Compl., ECF No. 1. ULT argues that this nearly three-year delay justifies denying or limiting an award of prejudgment interest. *See* ULT’s Resp. LBC’s Mot. Entry Judgment 21, ECF No. 249. ULT also argues that Bobel’s justification for the delay, that he was “busy,” does not suffice in light of the prejudice it worked on ULT. *Id.*

LBC responds by pointing to Bobel’s actions between Mark Patterson’s response letter and the initiation of this action nearly three years later. *See* LBC’s Reply 2, ECF No. 250. Bobel received ULT’s letter containing its non-infringement and invalidity positions in late 2006. *Id.* Subsequently, Bobel contacted Acacia in 2007. *Id.* After prolonged negotiations with Acacia,

Bobel negotiated an agreement regarding a license to the '529 patent in 2008. *Id.* Acacia then formed LBC, which instituted the current suit at the beginning of 2009. *Id.* While ULT contends that the nearly three-year delay constitutes an undue delay, resulting in unfair prejudice, the Court finds that both Bobel and LBC diligently worked to bring the current suit. In *Devex* the Supreme Court held that prejudgment interest is the norm, but that it could be denied or limited when "the patent owner has been responsible for undue delay in prosecuting the lawsuit." *Devex*, 461 U.S. at 657. In this case, leaving aside the length of the alleged undue delay relative to ULT's history of infringement, the Court notes Bobel's apparent diligence in attempting to secure a means of bringing an effective suit against ULT. Indeed, as ULT is well aware, this suit was initially instituted against several large, powerful corporations. Accordingly, Bobel's quick move to contact Acacia, negotiations with Acacia, the subsequent formation of LBC, and LBC's almost immediate move to file suit does not show an owner responsible for a delay. Rather such actions comport with a patent owner diligently seeking an effective means to challenge a host of large, wealthy corporations, having already put such corporations on notice regarding his infringement contentions. Considering these facts and the strong presumption in favor of a grant of prejudgment interest, the Court finds that an award of prejudgment interest is appropriate in this case.

After careful review of the parties' positions regarding the appropriate prejudgment interest rate, the Court finds that prejudgment interest should be calculated using the state statutory rate of 5%, compounded annually. Such interest is ordinarily awarded from the date of infringement until the entry of judgment. *See Nickson Indus. v. Rol Mfg. Co.*, 847 F.2d 795, 800 (Fed. Cir. 1988). Accordingly, per the unchallenged calculations contained in LBC's Motion, the interest total equals \$1,543,479.20, bringing the total award to \$4,543,479.20. *See* LBC's Mot. Entry J. 4, ECF No. 244.

Post-judgment interest shall be calculated at the rate set by 28 U.S.C. § 1961 as of the date judgment is entered in this action, compounded annually.

2. Attorney's Fees

LBC also seeks a finding that this is an “exceptional case” under 35 U.S.C. § 285, justifying an award of attorney’s fees. *See* LBC’s Mot. Entry Judgment 4, ECF No. 244. LBC bases its contention that the current case is “exceptional” on four allegations of litigation misconduct: 1) ULT blatantly violated the Court’s October 16, 2009 order requiring document production; 2) ULT produced the “Hesterman Notebook” in an untimely fashion, and produced the remaining “Hesterman Documents” less than 30 days before trial; 3) ULT deliberately attempted to “dupe” LBC and its own expert with a non-representative product; and 4) ULT “shielded” an “unqualified” investigator who destroyed documents from being its 30(b)(6) representative. *Id.* at 4-13. ULT responds that LBC fails to use the proper governing standard, that ULT committed no “litigation misconduct,” and that even assuming such misconduct other factors compel rejection of LBC’s request for exceptional case treatment. *See* ULT’s Resp. LBC’s Mot. Entry Judgment 1-13, ECF No. 249.

“The district court may, in ‘exceptional’ cases, award reasonable attorney fees to the prevailing party.” *Motorola, Inc. v. Interdigital Tech. Corp.*, 121 F.3d 1461, 1467-68 (Fed. Cir. 1997) (citing 35 U.S.C. § 285). “The decision whether to award fees is a two-pronged inquiry that requires, first, a factual finding that the case is ‘exceptional’ and, second, a discretionary decision to award fees.” *Id.* at 1468 (citing *Reactive Metals & Alloys Corp. v. ESM, Inc.*, 769 F.2d 1578, 1582 (Fed. Cir. 1985)). “Bad faith and willful infringement are not the only criteria whereby a case may be deemed ‘exceptional,’ although when either is present the requirement is more readily met.

Litigation misconduct and unprofessional behavior are relevant to the award of attorney fees, and may suffice to make a case exceptional under § 285.” *Sensonics, Inc. v. Aerosonic Corp.*, 81 F.3d 1566, 1574 (Fed. Cir.1996). “It is the judicial duty to refuse to condone behavior that exceeds reasonable litigation tactics.” *Id.* at 1575. However, “the court may consider the litigation actions of both sides in connection with § 285.” *Id.*

LBC’s primary evidentiary support for the request for fees stems from ULT’s failure to produce documents timely in accordance with the Court’s October 16, 2009 Order. *See* LBC’s Mot. Entry Judgment 6-7, ECF No. 244. According to LBC, even five months after the December 13, 2009 deadline set by the Court, ULT had only produced 259 pages of material and had refused to produce any product samples unless LBC agreed to pay for such samples. *Id.* at 6. Moreover, according to LBC, thousands of documents were not produced until 14-16 months after the Court’s December 13, 2009 deadline. *Id.* LBC emphasizes that these actions were part of a pattern of delay, which forced LBC to file an Emergency Motion to Modify the Scheduling Order to seek relief from certain deadlines and to compel ULT to produce key documents. *Id.* at 7. More specifically, LBC accuses ULT of delaying in producing the “Hesterman Notebook,” and subsequent “Hesterman Documents” to LBC’s detriment. *Id.* LBC contends that “had it not been for a chance encounter” between Hesterman and LBC’s expert Dr. Zane at a conference, “LBC would never have seen these documents.” *Id.* at 8.

LBC then moves on to allege that ULT deliberately attempted to “dupe” the Court and its own expert by using a non-representative product sample. *Id.* LBC argues that ULT’s choice of C2642, Generation E, as the representative product for CFL Group 1 constitutes litigation misconduct because the product did not perform like other products it supposedly represented. *Id.*

Then, when further testing was required due to the performance of the product, ULT sought to exclude such testing. *Id.* at 9. Lastly, LBC contends that ULT shielded Travis Berry, an “unqualified” investigator responsible for the illicit destruction of documents, from acting as ULT’s 30(b)(6) representative. *Id.*

ULT contends that it committed no litigation misconduct. *See* ULT’s Resp. LBC’s Mot. Entry Judgment 4, ECF No. 249. As to the alleged discovery misconduct, ULT argues that in its initial document production it produced schematics for virtually all of the accused products and data sheets for virtually all of the ICs. *Id.* ULT then states that in May 2010, ULT produced 20,000 additional pages of documents. *Id.* After the Court’s revised claim construction, ULT produced even more documents in advance of the discovery deadline. *Id.* at 4-5. Responding to the emergency motion relied on by LBC, ULT states that in that motion LBC incorrectly claimed that ULT had yet to produce schematics, but counsel for ULT explained that the schematics had been produced in December 2009. *Id.* at 5.

Moving to the “Hesterman Documents,” ULT avers that LBC’s account of their production “is pure fiction.” *Id.* ULT contends that there was “no causal relationship” between Dr. Zane’s meeting with Mr. Hesterman and the subsequent production of the “Hesterman Documents.” *Id.* ULT states that in preparation for trial, ULT’s counsel contacted Mr. Hesterman to gauge his potential availability for trial, realized he may possess relevant documents, and produced those documents in strict compliance with their disclosure obligations. *Id.* at 5-6. Turning to the allegedly deceptive CFL Group 1 representative product, ULT contends that each of LBC’s many accusations “is flat-out false.” *Id.* at 6. ULT contends that LBC actually proposed use of the subject product, and that LBC did so with full knowledge of how it worked and as to how it is different from other

CFL Group 1 products. *Id.* According to ULT, Dr. Roberts tested a different CFL Group 1 product, resulting in different test results. *Id.* Moreover, ULT disputes LBC's claim that the product is "defective," noting that the ballasts tested by Mr. Burke and Dr. Roberts date from 2007, over two years after the subject product's defect was discovered and corrected. *Id.* at 7-8.

Next, ULT takes issue with LBC's attempts to "disparage" Mr. Berry as "unqualified." *Id.* at 8. ULT argues that it did not "shield" Mr. Berry, listing him on the first page of each witness list and disclosing that he made determinations for ULT regarding the '529 patent. *Id.* at 9. Moreover, regarding the issue of a deposition, ULT notes that LBC never requested such a deposition even after Mr. Poehlman testified at his deposition that Mr. Berry had led the investigation into the accused products and the '529 patent. *Id.*

ULT also argues that LBC's own misconduct weighs against deeming this an "exceptional case" and granting an award of attorney's fees. *Id.* at 10. ULT contends that LBC refused to drop meritless claims in a timely manner, engaging both parties and the Court in vexatious litigation on frivolous claims. *Id.* at 11. Further, LBC filed untimely contentions and expert opinions, including an attempt to disclose an entirely new opinion regarding the Linear Group 3 ballasts in open court. *Id.* at 12. ULT also highlights the alleged misstatements in LBC's Motion for Entry of Judgment as evidence of LBC's own misconduct. *Id.*

Reviewing the extant evidence regarding ULT's alleged litigation misconduct, the Court finds insufficient evidence to deem this case "exceptional." To the extent such conduct exists, specifically in the form of dilatory production, the Court finds such delayed production counterbalanced by LBC's delay in producing contentions and their virtually rolling additions to Dr. Roberts' expert report. As for the remaining grounds, the Court finds that none of them are well

taken. The “Hesterman Documents” came to light before trial, and ULT produced them almost immediately. There is no evidence that Mr. Berry was shielded from LBC, and LBC freely and consistently argued to the jury that Mr. Berry was unqualified. LBC’s allegations that Mr. Berry destroyed documents illicitly or inappropriately formed the basis of their requested spoliation instruction, which the Court denied. The rhetoric regarding Mr. Berry’s allegedly improper destruction of documents is simply not borne out by the facts. Turning to the CFL Group 1 representative product, the Court finds that the evidence adduced at trial clearly showed that the defect in the representative product came to light, and was fixed, in 2005. While LBC continuously argued to the jury that ULT had duped everyone, their own expert included, in arguing for a finding of wilfulness, the jury was apparently not convinced. Neither is the Court. The record clearly shows that the parties were on notice regarding the nature of the representative product, and that the fixed defect had no bearing on any tests.

In sum, the overblown rhetoric LBC used in trial, and again in their briefs seeking fees, simply does not accord with the parties’ actual conduct during the course of this litigation. As such, the Court declines to deem this case “exceptional” and, accordingly, denies LBC’s request for fees.

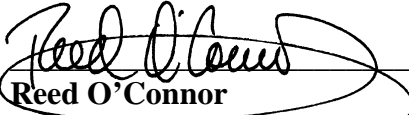
V. CONCLUSION

Accordingly, ULT’s Motion for Judgment as a Matter of Law should be and is hereby **DENIED**, and LBC’s Motion for Entry of Judgment is **GRANTED** in part and **DENIED** in part.

It is therefore **ORDERED** that the damages verdict of \$3,000,000.00 stands and represents a lump-sum royalty payment. It is further **ORDERED** that the Court awards prejudgment interest from the date of first infringement at the Texas statutory rate of 5%, compounded annually, amounting to \$1,543,479.20, bringing the total award to \$4,543,479.20, and post-judgment interest

from the date of judgment at the rate set by 28 U.S.C. § 1961.

SO ORDERED on this **26th day of August, 2011.**


Reed O'Connor
UNITED STATES DISTRICT JUDGE